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ABSTRACT

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The Cooperative Extension Division (CED) of the University of Nebraska's Institute of Agriculture and Natural Resources has presented pesticide applicator training (PAT) for nearly 2 decades. Because Nebraska did not pass the complementary state legislation, the U.S. Environmental Protection Agency (EPA), as provided in the Federal Insecticide, Fungicide, and Rodenticide Act as Amended (FIFRA), has operated the training, certification, and enforcement programs. Two classifications of applicators are recognized -- private and commercial. Three options for earning certification are offered: attend an EPA-approved training program at a county extension office, complete a self-study manual, or successfully complete an examination. CED has been responsible for planning, organizing, and presenting subject matter content for PAT. From its inception, the PAT program has been conducted in a very traditional classroom format. Because Nebraska has finally passed a law that allows it to assume responsibility for PAT, a task force has been evaluating alternative methods for delivering the PAT program, especially satellite delivery. The Nebraska Department of Agriculture has not been receptive to the possibility of extension educators delivering PAT using distance education technology. Although extension agreed to conduct the 1994-95 training cycle in traditional classroom format, it noted that with the 1995-96 cycle CED would need to begin a gradual shift of selected parts of the PAT program to satellite delivery. (YLB)



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Politics in An Adult Education Program

or

Don't Laugh, This Could Happen To YOU!!

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Politics in An Adult Education Program or Don't Laugh, This Could Happen To YOU!!

Pesticide applicator certification training is NOT a new program in Nebrask?. The Cooperative Extension Division (CED) of the University of Nebraska's Institute of Agriculture and Natural Resources has presented it annually for nearly two decades. What IS new is how this program is being operated. Unlike most states, Nebraska, until recently, has not had authority to operate its own program. Some background information is essential.

The Federal Insecticide, Fungicide and Rodenticide Act as Amended (FIFRA), governs all pesticide use in the U.S. A mid-1970s amendment classified pesticides as either general use or restricted use products (called RUPs) and stipulated that any person using any RUP must be trained and certified. The same amendment allowed each state to establish its own training, certification and enforcement program by meeting certain requirements, spelled out in Part 40, Sec. 171, of the Code of Federal Regulations. Most states had established an acceptable program by 1977 when this portion of the FIFRA amendments took effect. Proponency for the program usually was vested in the state department of agriculture, but in some states it was placed with a state environmental quality agency - the state equivalent of EPA. Two states, Nebraska and Colorado, did not pass the required complementary state legislation. As a result, the U.S. Environmental Protection Agency (EPA), as provided in FIFRA, operated the training, certification and enforcement programs in both states. Colorado remains today with half of their program under the direct authority of EPA.

To implement most aspects of the applicator training program, both the states administering their own programs and EPA (in Nebraska and Colorado) turned to Cooperative Extension. Extension was an obvious choice to deliver the PAT program; it had a solid knowledge base in the persons of entomologists, agronomists, horticulturalists, weed scientists, agricultural engineers and other subject matter specialists, and it had a highly effective outreach mechanism in place through its network of agent educators in the counties.



In Nebraska, the training program that emerged was carefully structured to conform with provisions of 40 CFR 171.

Two classifications of applicators were recognized: private and commercial. Private applicators were defined as individual farmers who applied RUPs only to land they owned or rented, or for another party only if the compensation was in the form of traded services. A commercial applicator, as the name implies, was defined as any person who applied an RUP for hire. Within the commercial applicator classification, 13 categories were established based broadly on the type of business in which the individual applicator was engaged. (e.g. a person who used or supervised use of RUPs on ornamental trees, shrubs, flowers or turf was certified in Category 4 - Ornamental and Turf Pest Control.) There were no categories for private applicators.

Pesticide applicator training began in Nebraska late in 1976 and early 1977. Individual farmers (private applicators) at first were certified for three years, but in 1984 the certification period was extended to four years.

There were three options for earning certification: attend an EPA-approved training program at a county Extension office (typically about three hours in length), complete a self-study manual (normally about a four to five hour process), or successfully complete an examination. The last option was virtually never used. (Farmers could *voluntarily* take an examination, but FIFRA specifically prohibited requiring one.)

Commercial applicators had essentially the same three options, but also had to complete both a "general standards" examination and at least one category examination. The tests were administered by the certifying agency (EPA), and a score of 70% on each was required to pass. Recertification was allowed without an examination, provided the applicator completed recertification training before his/her certificate expired. Commercial applicators were required to complete a nongraded worksheet as part of recertification training.

An interagency memorandum of agreement clearly delineated CED's role in the Nebraska PAT program. Approximately six years ago, EPA and Cooperative Extension also negotiated a contract for services; that contract expired at the end of September 1994.



Under terms of these agreements, EPA retained full authority over the PAT program; however, most operational aspects were delegated to Nebraska CED. In general, Extension was responsible for planning, organizing and presenting subject matter content for the PAT program. This included developing, producing, and distributing printed materials and AV resources, and conducting the training sessions. It also included writing a "pool" of examination items for applicator examinations from which EPA selected items to be administered. (In recent years, EPA has written all examination items without consulting CED.) From its inception the PAT program was conducted in a very traditional "classroom" format.

Farmers participating in local or district Cooperative Extension initial certification training received several printed references that included a joint EPA-U.S. Department of Agriculture manual, "Applying Pesticides Correctly." Those attending recertification training received a selection of relevant circulars and leaflets (called "NebGuides") prepared by Nebraska CED specialists. Both initial and recertification training covered a broad range of topics specified in 40 CFR Sec. 171: federal pesticide laws and regulations, pest identification, product selection, handling and storage of pesticides, reading and understanding product labels, care and calibration of application equipment, health and safety, and other related topics.

Some Extension educators presented most of the material personally using overhead transparencies and assorted other training aids. Most relied heavily on synchronous slide-audio tape presentations for selected topics. Since 1991, as AV technology has become increasingly more sophisticated, a substantial number of videotaped resources have been integrated into the training as well.

In terms of topics, commercial applicator training was quite similar, but decidedly more intensive. Initial training consumed most of a full day. It began with "general standards" training and testing in the morning covering the same general topics specified for private applicators. After a lunch break, specialists presented training specific to their category of interest. Their day ended with the category examination being administered by an EPA official. Training format was somewhat analogous to private applicator training: part lecture with transparencies and/or slides, a substantial



number of synchronized slide-tape units, and some videotape resources (particularly over the last four to five years).

Commercial training at any given site typically required as many as a dozen Extension specialists, educators or other resource persons, depending upon the number of categories being offered at that site. (Not all 13 categories were offered at each site due to the lack of demand in some locations.)

Commercial PAT was conducted in two cycles annually at a total of eight sites across the state of Nebraska. Because of the distances between training sites, each cycle required about two weeks to complete. The first cycle, began in early February (as it will again this year) and continued through mid-February. It was intended for applicators seeking recertification. No testing was conducted at any of these sessions. The second cycle, which began shortly thereafter and continued through late February, was designed to serve persons seeking initial certification. During the last three years, these two cycles have been combined at Western Nebraska training sites to reduce travel expenses.

Without question, PAT is Extension's largest single program in terms of number of people reached. More than 45,000 persons (over 38,000 private, approximately 7,000 commercial) presently hold federal applicator certificates in Nebraska.

There were several advantages to the face-to-face, classroom format.

Participants were able to interact freely with Extension presenters, and specialists could readily adjust presentations based on audience reaction. Specific individual question can be addressed.

There also were numerous disadvantages. The logistics of arranging commercial applicator training sessions began months in advance. Meeting rooms are scheduled two years in advance, often at area motel conference centers to accommodate larger groups. Specialists from district research and Extension centers across the state must be scheduled to assist with training. (A system was devised whereby District PAT coordinators were appointed to assist in this effort.)

A significant amount of time is required; cumulatively, the hours devoted to PAT in FY '94 was equivalent to nearly four FTEs! The average equivalency for the past four



years has been 3.3 FTEs. Travel-related costs also are substantial, as was the need for AV equipment resources. The PAT coordinator requires a nine-passenger van just to haul training equipment and materials from site to site.

Another consideration is the fact that travel during January and February in Nebraska can be a risky proposition. Would-be participants have frequently found it impossible to get to a training site because of weather-related road conditions. (Despite this, there has never been a training session cancelled since the program began!)

As is evident, pesticide applicator training, as conducted in collaboration with the EPA, was highly resource intensive. Not only was the program time-consuming, it was also expensive. The total PAT budget for FY 94 was more than \$200,000.

Adding fuel to the proverbial fire, the Nebraska legislature about seven years ago passed the Nebraska Chemigation Act. This law requires that any person who applies any agricultural chemical through an irrigation system be trained and certified by the Nebraska Department of Environmental Quality (NDEQ). The legislation authorized NDEQ to contract with Nebraska Cooperative Extension to conduct the training. A contract to conduct this program has been in place since the effective date of the legislation, and it too has become an additional duty of the pesticide training coordinator. Unfortunately, delivery of the chemigation program also involves some of the same personnel needed to deliver the PAT program.

Almost needless to say, the increased workload of many specialists across the state, as well as some Extension educators, has not gone unnoticed by Extension administrators, particularly the five district directors. Their concerns are based in practical realities.

Nebraska CED, like Extension services across the nation, has suffered the effects of stagnated budgets and reductions in work force. Extension, nationally and in Nebraska, has been forced to try to do more with less resources. The person-hours required by the PAT program as well as the chemigation applicator training program, therefore, became a target for input reduction.

In early 1993 it became apparent that the Nebraska legislature, with pressure from the U.S. Environmental Protection Agency, would finally pass a law that would



allow the state to assume responsibility for the pesticide program. Once the legislation was signed and the law became effective, the assistant dean of Nebraska Cooperative Extension late last year appointed an internal task force to scrutinize the PAT program. A key objective of this group was to evaluate alternative methods for delivering the PAT program, especially satellite delivery, and to make appropriate recommendations.

The narrow focus of the task force was not without cause. The UNL Cooperative Extension Division for the past three or four years has been gradually building and developing a statewide system of satellite communication. With approximately 50 sites presently on line, and another eight on the way, the system appeared to have high promise as a tool for delivering quality pesticide applicator training and at the same time reducing the amount of resources that traditionally had been devoted to it. (CED also expects to be able to deliver programming to over 70 Northeast Nebraska communities through a fiber optic system operated by an area community college.)

Through Dr. Barbara White at ES/USDA, the task force learned that several states - Iowa, Vermont, Virginia and Montana - were already delivering portions of their pesticide training program using distance educational technology. The Virginia program most closely resembled what Nebraska intended. They reported a significant measure of success using interactive video for individuals, multimedia programs for small groups, and video teleconferencing for larger groups. One drawback was program production costs. (Weaver, et al., 1991)¹ Applicators were both pleased with the content and appreciated the convenience that this method of delivery offered them. (Weaver and Murphy, 1993)²

The Nebraska task force also attempted to determine whether EPA and the Nebraska Department of Agriculture (NDA), which has proponency for administering the pesticide program in the state, would be receptive to the possibility of Extension delivering PAT using interactive distance education technology. Letters addressing this point and other related issues were sent to both agencies in early February 1994.

EPA's two-page response said in essence: "Talk to the Nebraska Department of Agriculture, it's their problem."

NDA's response was a page longer than EPA's, but could have been said in a



single word: "No." Several reasons were given for their response:

- They were skeptical about satellite delivered instruction. Richard Reiman, director of NDA's Bureau of Plant Industry, in a letter to Larry Schulze, stated: "...we think it's important, until these alternative methods are established and have proven to be acceptable, that we should maintain the number of sites and training session at the level they have been for the past several years."
- NDA expected to provide "a minimum of 100 locations across the state" where individuals could take tests to become commercial, noncommercial (added under the Nebraska Pesticide Act) or private applicators. They also planned to attend "as many training sessions as possible," to ensure that applicators actually participated in the training.
- The department felt it was essential to have face-to-face contact with applicators to underscore the fact that NDA, not EPA, is now responsible for the certification and training program in the state.

To accomplish these objectives, NDA wanted Extension educators to submit proposed training dates and times which they would approve or disapprove depending upon the availability of five department representatives assigned by district across the state.

Several other requirements also would have been placed on CED under terms of a draft agreement submitted to the University in early March 1994. These stipulations included:

- Presenting certification training throughout the state every 45 days for three commercial/noncommercial categories agricultural plant, ornamental and turf, and structural and health related pest control. (Under the federally administered pesticide program, noncertified applicators could use RUPs under the direct supervision of a certified applicator. The Nebraska Pesticide Act limits this option to one 60-day period and further requires the noncertified applicator to apply for certification within 10 days.)
- Restructuring the training program to present category related instruction (e.g. pest identification, sprayer calibration) during the general standards portion of the training. (The effect would be to have agricultural plant applicators learning how to



identify cockroaches, and structural applicators learning how to calibrate field sprayers!)

- Requiring county Extension educators to attend an unspecified number of training sessions in order to be qualified to instruct private applicators.
- A provision whereby CED would distribute NDA-prepared educational materials to all certified applicators.
- Another provision requiring the University to "indemnify and hold harmless the department" from claims and liability if the University, for whatever reason, failed to fulfill the agreement.
- Staking claim to all pesticide training related educational materials produced by CED during the term of the agreement.

There were several other items in the agreement to which either Extension or the office of the University General Counsel objected; however, those listed above are among the most salient.

Almost needless to say, there were lengthy discussions on the terms of the agreement and a considerable number of revisions. The discussions continued throughout the spring and most of the summer, and it was not until mid-August that an acceptable agreement was concluded.

Extension was unable to accede to NDA's request for formal training sessions throughout the summer. We did agree to conduct the 1994-95 training cycle in traditional "classroom" format, but it was very carefully noted that with the 1995-96 cycle CED would need to begin a gradual shift of selected parts of the PAT program to satellite delivery.

On other key points:

- Extension agreed to include a *pro forma* discussion of category related topics during the general standards training. NDA, for its part, agreed to begin developing a protocol whereby applicators could qualify for recertification by earning Continuing Education Unit credits.
- NDA conceded that in-service training of Extension educators and selection of topics for such training was the prerogative of Extension.
 - CED agreed to assist in the distribution of NDA-developed educational materials,



but only by including them in training folders issued to program participants. Any mass mailing to all 45,000-plus applicators is the responsibility of NDA.

- Finally, it was mutually agreed that NDA would have a proprietary interest only in those educational materials specifically produced with funds paid to the University by NDA; all other materials remain the exclusive property of the University of Nebraska Cooperative Extension Division.

Renegotiation of another one-year agreement will begin in each March shortly after the 1994-95 training cycle ends.



^{1.} Weaver, Michael J., Patricia A. Hipkins, William F. Murphy and Glen H. Hetzel. "Using Advanced Instructional Technology To Enhance Pesticide Applicator Training Programs," Journal of Applied Communications, Vol. 75, No. 1, 1991.

^{2.} Weaver, M.J. and W.F. Murphy. "Using Distance Education Technologies to Train Pesticide Applicators. Presentation at the National Certification & Training Workshop, New Orleans, LA., April 13-15 1993.

^{3.} Letter from Richard E. Reiman, Administrator - Bureau of Plant Industry, Nebraska Department of Agriculture, dated March 10, 1994.